

U.S. Patent Application No. 10/602,035  
Amendment dated January 12, 2007  
Reply to Office Action of August 14, 2006

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently amended) A method for preventing or reducing adhesion formation between tissue surfaces in a vertebrate subject, comprising administering to the subject an effective amount of at least one protease inhibitor to a site on a tissue surface for a period of time sufficient to prevent or reduce adhesion formation.
2. (Original) A method according to claim 1, wherein said protease inhibitor is an inhibitor of a serine protease.
3. (Original) A method according to claim 2, wherein said inhibitor of a serine protease is an inhibitor of a chymotrypsin-like serine protease.
4. (Original) A method according to claim 3, wherein said inhibitor of a chymotrypsin-like serine protease is an inhibitor of a chymase.
5. (Original) A method according to claim 4, wherein said inhibitor of a chymase is a peptidyl derivative of aryl diesters of  $\alpha$ -aminoalkylphosphonic acids.
6. (Original) A method according to claim 4, wherein said inhibitor of a chymase is Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>.

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7. (Original) A method according to claim 4, wherein said inhibitor of a chymase is an enantiomerically enriched preparation of Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>.
8. (Original) A method according to claim 7, wherein Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>-A comprises greater than 50% by weight of the total Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub> in said enantiomerically enriched preparation.
9. (Original) A method according to claim 7, wherein Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>-A comprises greater than 80% by weight of the total Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub> in said enantiomerically enriched preparation.
10. (Original) A method according to claim 7, wherein Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>-A comprises greater than 95% by weight of the total Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub> in said enantiomerically enriched preparation.
11. (Original) A method according to claim 1, wherein said protease inhibitor is administered to said subject before, during or after a surgical procedure.
12. (Original) A method according to claim 11, wherein said surgical procedure is an abdominal surgical procedure.
13. (Original) A method according to claim 11, wherein said surgical procedure is a thoracic

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surgical procedure.

14. (Original) A method according to claim 11, wherein said surgical procedure is an ophthalmic surgical procedure.

15. (Original) A method according to claim 11, wherein said surgical procedure is a cardiac or gynecologic surgical procedure.

16. (Currently amended) A method for preventing or reducing postoperative adhesion formation in the peritoneum of a warm-blooded mammal, comprising administering to said mammal an effective amount of at least one serine protease inhibitor to a site on an organ surface for a period of time sufficient to prevent or reduce adhesion formation.

17. (Original) A method according to claim 16, wherein said serine protease inhibitor is an inhibitor of a chymotrypsin-like serine protease.

18. (Original) A method according to claim 17, wherein said inhibitor of a chymotrypsin-like serine protease is an inhibitor of a chymase.

19. (Original) A method according to claim 18, wherein said inhibitor of a chymase is a peptidyl derivative of aryl diesters of  $\alpha$ -aminoalkylphosphonic acids.

20. (Original) A method according to claim 18, wherein said inhibitor of a chymase is Suc-Val-

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Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>.

21. (Original) A method according to claim 18, wherein said inhibitor of a chymase is an enantiomerically enriched preparation of Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>.

22. (Original) A method according to claim 21, wherein Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>-A comprises greater than 50% by weight of the total Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub> in said enantiomerically enriched preparation.

23. (Original) A method according to claim 21, wherein Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>-A comprises greater than 80% by weight of the total Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub> in said enantiomerically enriched preparation.

24. (Original) A method according to claim 21, wherein Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub>-A comprises greater than 95% by weight of the total Suc-Val-Pro-Phe<sup>P</sup>(OPh)<sub>2</sub> in said enantiomerically enriched preparation.

25. (Currently amended) A method according to ~~claims~~ claim 1, wherein said protease inhibitor is administered in conjunction with a delivery vehicle which maintains an effective local concentration of said protease inhibitor at said site, and wherein said delivery vehicle comprises microcapsules or microspheres.

26. (Original) A method according to claim 25, wherein said microcapsules or microspheres

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comprise a biodegradable polymer selected from the group consisting of poly( $\alpha$ -hydroxy acids), polyhydroxybutyric acids, polycaprolactones, polyorthoesters, polyanhydrides, PACA, polycyanoacrylates, poly(D,L-lactide-co-glycolide) and mixtures thereof.

27. (Currently amended) A method according to ~~claims~~ claim 1, wherein said protease inhibitor is administered in conjunction with a delivery vehicle which maintains an effective local concentration of said protease inhibitor at said site, and wherein said delivery vehicle comprises a film.

28. (Original) A method according to claim 27, wherein said film comprise a biodegradable polymer selected from the group consisting of poly( $\alpha$ -hydroxy acids), polyhydroxybutyric acids, polycaprolactones, polyorthoesters, polyanhydrides, PACA, polycyanoacrylates, poly(D,L-lactide-co-glycolide) and mixtures thereof.

29. (Currently amended) A method according to ~~claims~~ claim 1, wherein said protease inhibitor is administered in conjunction with a delivery vehicle which maintains an effective local concentration of said protease inhibitor at said site, and wherein said delivery vehicle comprises liposomes.

30. (Currently amended) A method according to ~~claims~~ claim 1, wherein said protease inhibitor is administered in conjunction with a delivery vehicle which maintains an effective local concentration of said protease inhibitor at said site, and wherein said delivery vehicle comprises a high-molecular weight carrier selected from the group consisting of hyaluronic acid, hydrogels,

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carboxymethylcellulose carboxymethylcellulose, dextrans, cyclodextrans, and mixtures thereof.

31. (Original) A method according to claim 1, wherein said vertebrate subject is a human.
32. (Original) A method according to claim 16, wherein said warm-blood mammal is a human.
33. (Currently amended) A pharmaceutical composition for the prevention of adhesion formation, comprising the at least one protease inhibitor ~~of any one of claims 1-24~~ and a pharmaceutically acceptable diluent or excipient.
34. (Currently amended) A pharmaceutical composition according to claim 33, further comprising a delivery vehicle which maintains an effective local concentration of said protease inhibitor at a site on an tissue surface for a period of time sufficient to ~~prevent or~~ reduce adhesion formation.
35. (New) The pharmaceutical composition of claim 33, further comprising a microcapsule or microsphere with a biodegradable polymer.
36. (New) The pharmaceutical composition of claim 33, wherein said pharmaceutical composition is in the form of a film and wherein said pharmaceutical composition further comprises a biodegradable polymer, a liposome, or both.